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Thursday, 23 February (afternoon)

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**PAPER SESSION: Environmental Tobacco Smoke (Lecture Hall F)**

Chairman: David V. Bates, M.D., University of British Columbia

- 14.00      **Biomonitoring after controlled exposure to environmental tobacco smoke (ETS)**  
G. Scherer, Ch. v. Maltzan, L. v. Meyerinck, L. Jarczyk and F. Adlkofer, Forschungsgesellschaft Rauchen und Gesundheit mbH, Hamburg, FRG
- 14.15      **Considerations of the chemical complexity of ETS with regard to inhalation studies**  
C.J. Proctor and G. Smith, BAT (UK and Export) Ltd, Research and Development Centre, Southampton, UK
- 14.30      **Carbon monoxide uptake and release in man**  
H. Hauck, University of Vienna, Institute of Medical Physics, Vienna, Austria
- 14.45      **The passive smoking myth**  
N. Mantel, The American University, Washington, DC, USA
- 15.00      **The role of histopathology in the evaluation of risk of lung cancer from environmental tobacco smoke**  
J.M. Faccini, Robens Institute of Industrial and Environmental Health and Safety, University of Surrey, Guildford, UK
- 15.15      **Theory (or model) of the joint influence of occupational exposure to carcinogenic dust and to cigarette smoke and occupational lung cancer**  
T.D. Sterling, Simon Fraser University, Burnaby, BC, Canada
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- 15.30      **Refreshment break**
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Thursday, 23 February (afternoon)

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**PAPER SESSION: Scientific Judgement (Lecture Hall F)**

Chairman: Carol J. Henry, Ph.D., D.A.B.T., ILSI Risk Science Institute

- 16.00      **Risk modelling: which models to choose**  
M.J. Csicsaky, M. Roller and F. Pott, Medical Institute of Environmental Hygiene, University of Düsseldorf, Düsseldorf, FRG
- 16.15      **Limitations of epidemiology in assessing risk for cancer from environmental sources**  
D. Flesch-Janys, H. Neus and M. Schümann, Gesundheitsbehörde, Hamburg, FRG
- 16.30      **Carcinogenic risk assessment: some comparison of risk estimates derived from human and animal data**  
G.A. Zapponi and P. Valente, Istituto Superiore di Sanità, Rome, Italy
- 16.45      **Issues in conducting a cancer risk assessment for arsenic**  
I. Hertz-Picciotto, California Department of Health Services, Berkeley, CA, USA
- 17.00      **Carcinogenic risk assessments of volatile superfund hazardous substances**  
A.R. Gregory, J. Coglianò, B. Hostage, I. Vega, J.M. Conis, T.R. Wendel and A. Messing, Environmental Monitoring & Services Inc - Combustion-Engineering - Environmental, Washington, DC, USA and US Environmental Protection Agency, Washington, DC, USA
- 17.15      **Development of pragmatic control standards based on packaging regulation 'risk phrases'**  
R.J. Gardner and P.J. Oldershaw, Health and Safety Executive, Technology Division, Bootle, Merseyside, UK
- 17.30 — 17.45      **Human risk assessment for carcinogens from an administrative perspective**  
I. Tesseraux, H. Neus and A. Kappos, Gesundheitsbehörde, Hamburg, FRG
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- 18.30      **Buffet supper at the Hotel Inter-Continental ("Niedersächsischer Dorfabend")**
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Friday, 24 February (morning)

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**PLENARY SESSION III  
INTERFACES BETWEEN SCIENTIFIC JUDGEMENT AND  
PRUDENT ENVIRONMENTAL HEALTH POLICY**

Chairman: Bernard Goldstein, M.D., Robert Wood Johnson Medical School

- 8.00      **Risk assessment as an instrument of environmental policy**  
Manfred Fischer, Prof. Dr. phil., Federal Health Office, Berlin
- 8.40      **The perils of prudence**  
Peter W. Preuss, Ph.D., United States Environmental Protection  
Agency
- 9.20      **Science, ethics and public policy**  
Geoffrey Rose, D.M., D.Sc., F.R.C.P., F.F.C.M., London School of  
Hygiene and Tropical Medicine

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10.00      **Refreshment break**

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- 10.30      **Recent progress and problems in setting and applying occupational  
exposure standards**  
Dietrich Henschler, Prof. Dr. med., University of Würzburg

**SYMPOSIUM SYNTHESIS**

- 11.10      David V. Bates, M.D., University of British Columbia
- 11.40      Roger O. McClellan, D.V.M., Chemical Industry Institute of Toxicology
- 12.10      **Closing Remarks**
- 12.20      **End of Symposium**

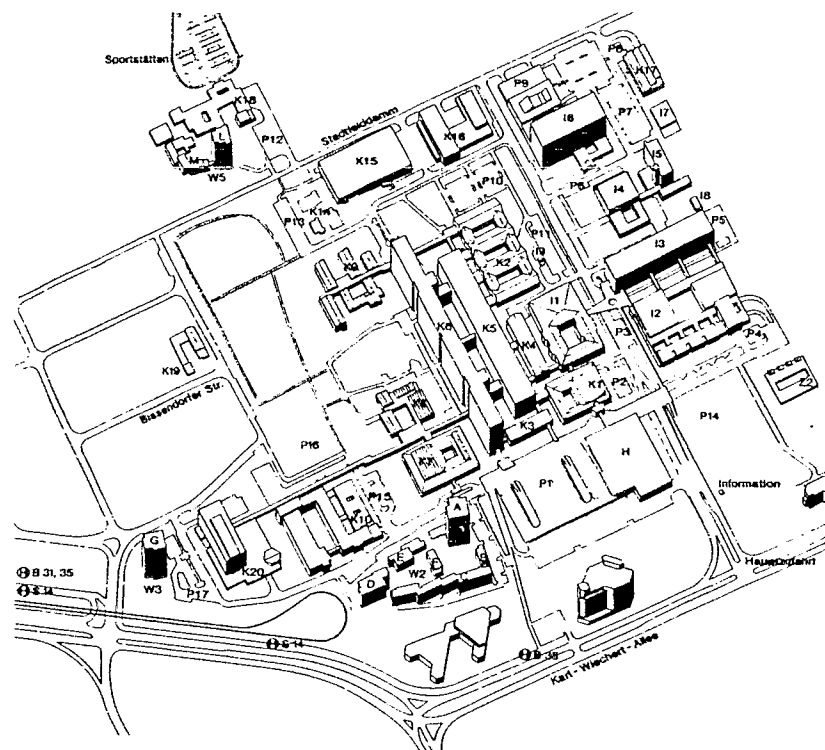
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Notes

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## MEDIZINISCHE HOCHSCHULE HANNOVER

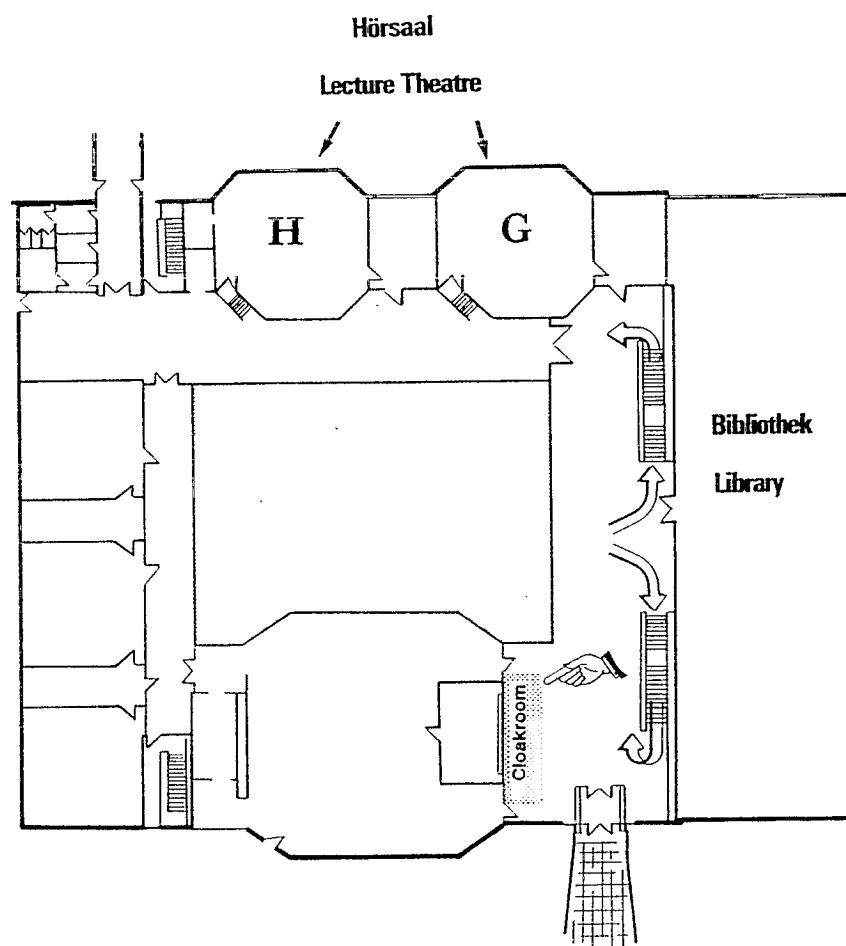


## Key to the plan of MHH

- A Administration
- H Helicopter landing pad
- 11 Clinical teaching block
- 12 Preclinical teaching block
- 13 Theoretical Institutes I
- 14 Research technology
- 15 Central animal laboratory
- 16 Theoretical Institutes II
- 17 Kennels
- 18 Gas store
- 19 Ether store
- K1 Surgical out-patients
- K2 Out-patients (West)
- K3 Hospital administration
- K4 Laboratories
- K5 Examination, treatment and research building (UBF-Bau)
- K6 Wards
- K7 Radiology
- K8 Physiotherapy
- K9 Psychiatry
- K10 Paediatric hospital
- K14 Dialysis unit
- K15 Kitchens, refectory
- K16 Technical administration
- K17 Laundry
- K18 School for Medical Assistants
- K19 School for Medical Assistants Bissendorfer Straße
- K20 Dental hospital
- P1 -
- P17 Parking facilities
- W2 Residential area 2
- B Block B
- C Block C

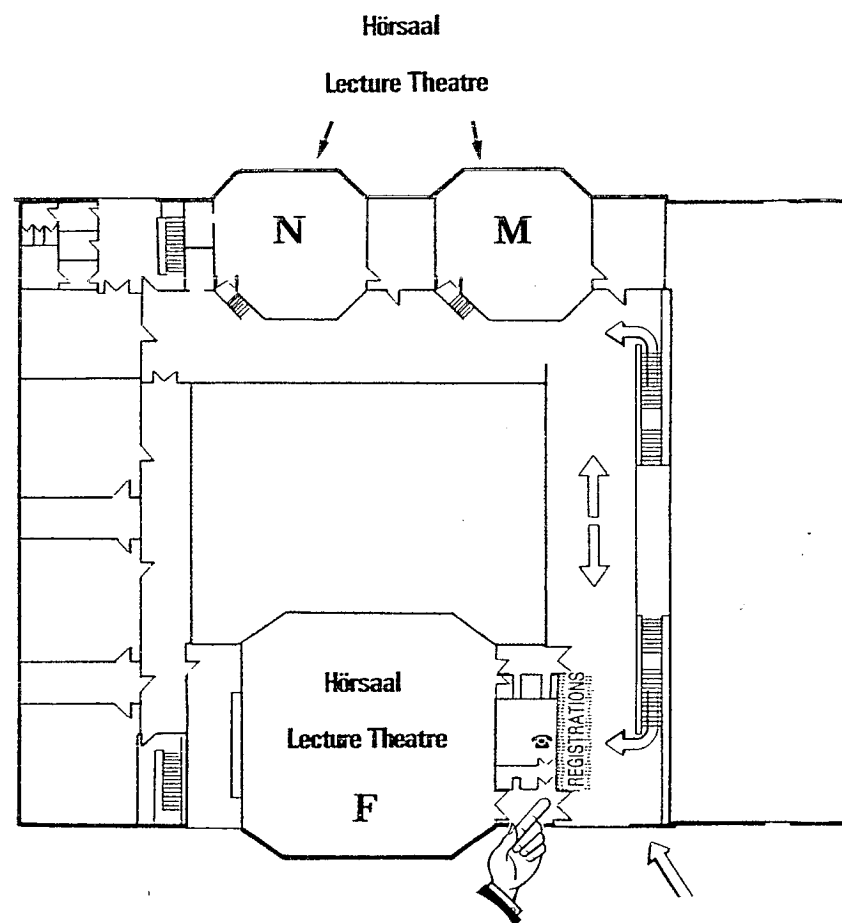
- D Block D
- E Block E
- F Block F
- W3 Residential area 3
- G Tower block G
- W5 Residential area 5
- L Tower block L
- M Block M
- Z2 Day nursery
- B Bus stops
- S Tram stops

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I1 Klinisches Lehrgebäude  
I1 Clinical Teaching Block

1. Stock  
1st Floor



I1 Klinisches Lehrgebäude  
I1 Clinical Teaching Block

2. Stock  
2nd Floor

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## Notes

## Appendix / Posters

The poster presentations will be arranged in the vestibule in numerical order and according to the programme topics. Additional categories have been included for cadmium, toner and miscellaneous abstracts.

### ANIMAL

- No. 1 **Animal experimental model for studying respiratory and cardiovascular parameters in unanesthetized rabbit**  
M.S. Islam and H.-W. Schlipkötter, Medical Institute of Environmental Hygiene, University of Düsseldorf, Düsseldorf, FRG
- No. 2 **A new small animal inhalation facility: design and performance**  
G.N. Stradling, A. Hodgson, J.C. Moody, M.R. Bailey and J.W. Stather, National Radiological Protection Board, Chilton, Didcot, Oxon, UK

### DOSIMETRIC

- No. 3 **Calculation of inhalation reference doses for toxic gases: a comparison of proposed methods to PB-PK model predictions**  
J.H. Overton, Jr. and A.M. Jarabek, Health Effects Research Laboratory and Environmental Criteria and Assessment Office, US Environmental Protection Agency, Research Triangle Park, NC, USA
- No. 4 **Dosimetric equivalence of tar deposition in rodents and man**  
J.N. Pritchard, J.J. McAughey and A. Black, Environmental and Medical Sciences Division, Harwell Laboratory, Oxon, UK

### MECHANISTIC

- x No. 5 **Functional culture of hamster and human airway epithelial cells and application to pulmonary toxicology**  
M. Emura, M. Riebe, P. Germann, C. Brockmeyer, M. Aufderheide and U. Mohr, Institut für Experimentelle Pathologie, Medizinische Hochschule Hannover, Hannover, FRG
- x No. 6 **Cytotoxicity of chromium-III and -VI compounds in different cell culture systems and short term in vivo tests**  
H.H. Popper, M. Ratschek, E. Grygar, W. Weybora, G. Wiespainer, and O. Wawschinek, Institutes of Pathology and Medical Biochemistry, University of Graz and Institute of Biomedical Engineering, Technical University of Graz, Austria
- x No. 7 **Inhalation hazards of airborne particulates evaluated by in vitro cyto- and genotoxicity testing: a long-term study over a period of 14 years from a highly industrialized area**  
N.H. Seemayer, W. Hadnagy, H. Behrendt and R. Tomingas, Medical Institute of Environmental Hygiene, University of Düsseldorf, Düsseldorf, FRG

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## CASE STUDIES

### × Formaldehyde

- No. 8 **Building related illness involving formaldehyde and other volatile organic compounds**  
C.W. Bayer and M.S. Black, Georgia Tech Research Institute, Emerson, Atlanta, GA, USA

### Arsenic

- No. 9 **Investigation of tumor initiating and cocarcinogenic properties of arsenite and arsenate with the rat liver foci bioassay**  
R.J. Laib, H. Moritz and H.M. Bolt, Institut für Arbeitsphysiologie, Abteilung für Toxikologie und Arbeitsmedizin, Universität Dortmund, Dortmund, FRG

### Butadiene

- No. 10 **Metabolic profile of inhaled butadiene in monkeys**  
J.D. Sun<sup>1</sup>, A.R. Dahl<sup>1</sup>, J.A. Bond<sup>1</sup>, L.S. Birnbaum<sup>2</sup> and R.F. Henderson<sup>1</sup>,  
<sup>1</sup>Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, USA; <sup>2</sup>National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA
- No. 11 **Neoplastic lesions induced by 1,3-butadiene in B6C3F1 mice**  
R.A. Miller<sup>1</sup>, R.L. Melnick<sup>2</sup> and G.A. Boorman<sup>2</sup>, <sup>1</sup>Battelle, Pacific Northwest Laboratories, Richland, WA, USA; <sup>2</sup>National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA

### Benzene

- No. 12 **Impairment of lung structure and function caused by hexachlorobenzene**  
H. Behrendt<sup>1</sup>, N.H. Seemayer<sup>1</sup>, G. Goerz<sup>2</sup> and K. Bolsen<sup>2</sup>,  
<sup>1</sup>Medical Institute of Environmental Hygiene; <sup>2</sup>Dermatologic Clinic, University of Düsseldorf, Düsseldorf, FRG
- No. 13 **A toxicokinetic model for simulation of benzene metabolism**  
M.A. Medinsky<sup>1</sup>, P.J. Sabourin<sup>1</sup>, G. Lucier<sup>2</sup>, L.S. Birnbaum<sup>2</sup> and R.F. Henderson<sup>1</sup>, <sup>1</sup>Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, USA; <sup>2</sup>National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA
- No. 14 **Effect of repeated benzene inhalation exposures on metabolism of subsequently administered [<sup>14</sup>C]benzene**  
P.J. Sabourin<sup>1</sup>, J.D. Sun<sup>1</sup>, M.A. Medinsky<sup>1</sup>, L.S. Birnbaum<sup>2</sup>, G. Lucier<sup>2</sup> and R.F. Henderson<sup>1</sup>, <sup>1</sup>Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, USA; <sup>2</sup>National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA

## Environmental Tobacco Smoke

- × No. 15 **Subchronic inhalation study of rats and hamsters using sidestream smoke from cigarettes**  
L. v. Meyerinck<sup>1</sup>, G. Scherer<sup>1</sup>, F. Adlkofer<sup>1</sup>, R. Wenzel-Hartung<sup>2</sup>, H. Brune<sup>2</sup> and C. Thomas<sup>3</sup>, <sup>1</sup>Forschungsgesellschaft Rauchen und Gesundheit mbH, Hamburg, FRG; <sup>2</sup>Biologisches Laboratorium Dr. med. Horst Brune, Hamburg, FRG; <sup>3</sup>Pathologisches Institut, Klinikum Lahnberge, Marburg/Lahn, FRG
- × No. 16 **Cigarette smoke induces DNA adducts in lungs of rats after inhalation**  
J.A. Bond, B.T. Chen, R.G. Cuddihy, W.C. Griffith and J.L. Mauderly, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, USA
- ✓ No. 17 **Elemental analyses in human lung tissue correlated with smoking, pulmonary emphysema and lung cancer**  
P.-L. Kalliomäki<sup>1</sup>, K. Kalliomäki<sup>2</sup>, P. Pääkkö<sup>3</sup>, P. Kokkonen<sup>3</sup>, K. Malmqvist<sup>4</sup> and J. Pallon<sup>4</sup>, <sup>1</sup>Institute of Occupational Health, Helsinki, Finland; <sup>2</sup>Department of Measuring Technique; <sup>3</sup>Department of Pathology and Chemistry, University of Oulu, Oulu, Finland and <sup>4</sup>Department of Nuclear Physics, Institute of Technology, Lung, Sweden
- ✓ No. 18 **Comparison of three methods of exposing rats to cigarette smoke**  
J.L. Mauderly, W.E. Bechtold, J.A. Bond, A.L. Brooks, B.T. Chen, J.R. Harkema, R.F. Henderson, N.F. Johnson, K. Rithidech, D.G. Thomassen and R.G. Cuddihy, Lovelace Inhalation Toxicology Research Institute, Albuquerque, NM, USA

## Automotive Exhaust

- No. 19 **Genotoxicity of particulate emissions from gasoline-powered engines evaluated by short-term bioassays**  
W. Hadnagy and N.H. Seemayer, Medical Institute of Environmental Hygiene, University of Düsseldorf, Düsseldorf, FRG
- No. 20 **The effect of automotive exhaust exposure on the carcinogenicity of dipentyl nitrosamine (DPN) in the respiratory tract of rats**  
U. Heinrich, L. Peters, R. Fuhst and U. Mohr, Fraunhofer Institute of Toxicology and Aerosol Research, Hannover, FRG
- No. 21 **The long-term inhalation studies of exhaust from the diesel engine on F-344 rats — the quantitative relationship between the pulmonary hyperplasia and anthracosis**  
Y. Takaki, S. Kitamura, N. Kuwabara and Y. Fukuda, Department of 1st Pathology, Juntendo University School of Medicine, Tokyo, Japan

## Toner

- No. 22 **Reversibility of clearance impairment after subchronic test toner inhalation**  
**B. Bellmann<sup>1</sup>, H. Muhle<sup>1</sup>, O. Creutzenberg<sup>1</sup> and R. Mermelstein<sup>2</sup>,**  
<sup>1</sup>Fraunhofer Institute of Toxicology and Aerosol Research, Hannover, FRG;  
<sup>2</sup>Corporate Environmental Health & Safety, Xerox Corp, Rochester,  
 NY, USA
- No. 23 **Lung response to test toner upon 2-year inhalation exposure in rats**  
**H. Muhle<sup>1</sup>, C. Dasenbrock<sup>1</sup>, S. Takenaka<sup>1</sup>, H. Ernst<sup>1</sup>, U. Mohr<sup>1</sup>,**  
**R. Kilpper<sup>2</sup>, J. MacKenzie<sup>2</sup>, P. Morrow<sup>3</sup> and R. Mermelstein<sup>2</sup>,**  
<sup>1</sup>Fraunhofer Institute of Toxicology and Aerosol Research, Hannover, FRG;  
<sup>2</sup>Corporate Environmental Health & Safety, Xerox Corp, Rochester,  
 NY, USA; <sup>3</sup>University of Rochester, Rochester, NY, USA
- × No. 24 **Reversibility of biochemical alterations in broncho-alveolar lavage fluid (BALF) upon cessation of dust exposure**  
**O. Creutzenberg<sup>1</sup>, H. Muhle<sup>1</sup>, B. Bellmann<sup>1</sup>, R. Kilpper<sup>2</sup>, R. Mermelstein<sup>2</sup>**  
**and P. Morrow<sup>3</sup>,** <sup>1</sup>Fraunhofer Institute of Toxicology and Aerosol Research,  
 Hannover, FRG; <sup>2</sup>Corporate Environmental Health & Safety, Xerox Corp,  
 Rochester, NY, USA; <sup>3</sup>University of Rochester, Rochester, NY, USA
- × No. 25 **Pulmonary function changes in rats during 2-year inhalation exposure to various particulate matter**  
**U. Heinrich<sup>1</sup>, H. Muhle<sup>1</sup>, G. Hoymann<sup>1</sup> and R. Mermelstein<sup>2</sup>,** <sup>1</sup>Fraunhofer  
 Institute of Toxicology and Aerosol Research, Hannover, FRG; <sup>2</sup>Corporate  
 Environmental Health & Safety, Xerox Corp, Rochester, NY, USA

## Cadmium

- No. 26 **Investigations of the carcinogenic effects of various cadmium compounds after inhalation exposure in rodents**  
**U. Heinrich, L. Peters, H. Ernst, S. Rittinghausen, C. Dasenbrock and**  
**H. König,** Fraunhofer Institute of Toxicology and Aerosol Research,  
 Hannover, FRG
- No. 27 **Quantification of proliferative lesions in hamster lungs after chronic exposure to cadmium aerosols**  
**M. Aufderheide, K.-U. Thiedemann, M. Riebe and M. Kohler,**  
 Medizinische Hochschule Hannover, Hannover, FRG
- No. 28 **Ultrastructural observations in hamster and rat lung after chronic inhalation of cadmium compounds**  
**K.-U. Thiedemann, U. Wahnschaffe, N. Lütke, U. Heinrich, U. Glaser and**  
**U. Mohr,** Fraunhofer Institute of Toxicology and Aerosol Research,  
 Hannover, FRG

## Miscellaneous

- No. 29 **Comparative biochemical and electron microscopic studies on the in vitro effects of high-T<sub>c</sub>-superconductive particles (YBa<sub>2</sub>Cu<sub>3</sub>O<sub>6.7</sub>) and quartz (SiO<sub>2</sub>) on bovine alveolar macrophages**  
**W. Wilczek, E. Drosselmeyer and A. Seidel,** Kernforschungszentrum  
 Karlsruhe, Institut für Genetik und Toxikologie, Karlsruhe, FRG
- No. 30 **Interspecies comparison of ozone-induced acute lung injury**  
**L. van Bree, J.A.M.A. Dormans, M.E.M. Geleijnse, M. Marra and**  
**P.J.A. Rombout,** National Institute of Public Health and Environmental  
 Protection, Bilthoven, The Netherlands
- × No. 31 **Effect of long-term inhalation of N-nitroso-dimethylamine (NDMA) and SO<sub>2</sub>/NO<sub>x</sub> in rats**  
**R.G. Klein, I. Janowsky, P. Schmezer, R. Hermann, B. Spiegelhalter,**  
**W.J. Zeller and B.L. Pool,** German Cancer Research Center, Heidelberg,  
 FRG
- No. 32 **SEM analysis of injuries induced in the trachea of rat by inhalation of sodium combustion products**  
**P. Pagano, M. Calamosca, G. Forner, G. Fagarazzi and S. Bruni,**  
 ENA PAS/FIBI/AEROSOL, Bologna, Italy
- No. 33 **Regional population risk evaluation for multiple inhalation hazards**  
**M. Schumann, D. Flesch-Janys and H. Neus,** Gesundheitsbehörde,  
 Hamburg, FRG
- No. 34 **Acute inhalatory mass ammonia intoxication with fatal course**  
**J.R. Weiser,** Department of Internal Medicine, Medical University Lübeck,  
 Lübeck, FRG

## Scientific Judgement

- No. 35 **Formulation of an emergency planning guideline for cobalt hydrocarbonyl**  
**A.I. Nikiforov, W.C. Daughtrey and S.C. Lewis,** Exxon Biomedical  
 Sciences, Inc, East Millstone, NJ, USA